

Appln No. 09/923,676

Amdt date September 9, 2005

Reply to Office action of July 11, 2005

**Amendments to the Specification:**

Please amend the paragraph beginning on page 9, line 11 as follows:

FIG. 10 shows the receiver of FIG. 9 in more detail. Antennas 114a , 114b could comprise arrays or a single element that cover different fields of view. Signal path 104a has a tuner in VSB front end 108a and an equalizer comprising FFE 110a, a summing junction 115a, a slicer 112a, and a DFE 114a. Similarly, signal path 104b has a tuner in VSB front end 108b and an equalizer comprising FFE 110b, a summing junction 115b, a slicer 112b, and a DFE 114b. In the two channel mode, channels 104a and 104b are essentially isolated from each other. In the ~~[[ex]]~~ scanned array mode, slicers 112a, 112b of channels 104a, 104b are disabled and a cross-coupling slicer 122 is enabled. Antennas 114a and 114b are coupled by MUXs 116a, 116b, respectively, to the tuners in VSB front ends 108a, 108b, respectively. Signals A and B determine which of antennas 114a, 114b is/are connected to the tuners in VSB front end 108a, 108b. In the diversity or scanned array mode, the tuners in [both] VSB front ends 108a, 108b are set to the same channel, MUX 116a connects antenna 114a to the input of the tuner in VSB front end 108a, and MUX 116b connects antenna 114b to the input of the tuner in VSB front end 108b. In the two channel mode, the tuners in VSB front ends 108a, 108b are set respectively to the two channels being received. The ~~[[t-we]]~~ two channel mode takes advantage of the combined field of view of antennas 114a,

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114b. Depending upon the direction from which the two channels impinge upon these antennas, one antenna or the other or both antennas is/are connected by MUXs 116a, 116b to the inputs of the tuners in VSB front ends 108a, 108b. In the same way as the diversity or scanned array mode, the best signal for each signal path is determined as a basis for the connectivity of MUXs 116a, 116b. For example, if the tuner in VSB front end 108a is tuned to channel 1 and the best signal from channel 1 is intercepted by antenna 114b, MUX 116b directs antenna 114b to the tuner in VSB front end 108a; if the tuner in VSB front end 108b is tuned to channel 2 and the best signal from channel 2 is also intercepted by antenna 114b, MUX 116b also directs antenna 114b to the tuner in VSB front end 108b. Similarly, if **the tuner in** VSB front end 108a is tuned to channel 1 and the best signal from channel 1 is intercepted by antenna 114a, MUX 116a directs antenna 114a to the tuner in VSB front end 108a; if the tuner in VSB front end 108b is tuned to channel 2 and the best signal from channel 2 is also intercepted by antenna 114a, MUX 116a also directs antenna 114a to the tuner in VSB front end 108b. If channel 1 is received better from one antenna and channel 2 is received better from the other antenna, MUX 116a directs the one antenna to the tuner in VSB front end 108a and the other antenna to the tuner in VSB front end 108b. The outputs of the tuners in VSB front ends 108a, 108b are connected to a synchronizer 118 to bring the MPEG frames of both channels into synchronism. For this purpose, a buffer 120 stores part of the MPEG frame transmitted on one channel. Synchronizer 118 senses

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the offset between the MPEG frames on channels 104a and 104b and stores this offset part in buffer 120.

Please amend the paragraph beginning on page 11, line 4 as follows:

As represented by a block 132, optimization criteria are derived for both the two channel mode and the diversity or scanned array mode. As represented by a block 134, an algorithm derives control parameters from these criteria to select antennas 114a, 114b to feed channels 104a, 104b in the two channel mode under control of signals A and B and to derive  $\mu_1$ ,  $\mu_2$  multiplying factors in the diversity or scanned array mode. The optimization criteria can be derived at different locations of channels 104a, 104b in accordance with the embodiments of FIGS. 2 to 6.